



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/500,713

07/06/2004

Johannes J. Meerman

119567

7197

25944

7590

02/04/2008

OLIFF & BERRIDGE, PLC

P.O. BOX 320850

ALEXANDRIA, VA 22320-4850

EXAMINER

WOLLSCHLAGER, JEFFREY MICHAEL

ART UNIT

PAPER NUMBER

1791

MAIL DATE

DELIVERY MODE

02/04/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/500,713	Applicant(s) MEERMAN ET AL.	
	Examiner JEFFREY WOLLSCHLAGER	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 April 2007 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

Applicant's amendment to the claims filed November 13, 2007 has been entered.

Claims 1, 2 and 7 are currently amended.

Drawings

The amendment to the drawings filed April 30, 2007 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: Figure 2 has been modified to show the plates and the slot at the bottom of the coagulation bath. This objection may be overcome by pointing to the location in the original disclosure where support for this amendment may be found. Otherwise, applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-7 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The limitation requiring that the slot or diaphragm be positioned at the

Art Unit: 1791

bottom of the coagulation bath, as shown in replacement Figure 2, does not appear to be supported by the original disclosure as is explained in more detail in the response to arguments below.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1 and 2 are indefinite because the recitation, "wherein the projection of the slot or diaphragm has substantially the same size and shape as a projection of the spinning field" is unclear as to its limiting effect. It is noted that through "projection" very small items can be made to look large and very large items may be made to look small. As such, it is unclear what limiting effect this recitation has on the claim. In other words, it is unclear whether the limitation is intended to require the slot/diaphragm and the spinning field to have about the same size or whether the intent is such that merely a "projection" has substantially the same size and shape. The examiner submits that these are not the same thing.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any

Art Unit: 1791

evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meerman et al. (U.S. Patent 5,945,054) in view of Roberts (U.S. Patent 4,193,962).

Regarding claims 1 and 2, Meerman et al. teach a method and a device for manufacturing filaments from an optically anisotropic spinning solution comprising extruding the spinning solution through a spinneret comprising a spinning field with a plurality of spinning orifices into a coagulation bath through a slot, wherein the edges of the slot are formed by plates with upper sides and lower sides, wherein the upper sides of the plates have the shortest distance to the spinning field, wherein a projection of the slot intrinsically is about the same size as a projection of the spinning field, and wherein a plane of an upper side of one plate has a shorter distance to the center of the spinning field than a plane of an upper side of the other of the plate (Abstract; col. 3, lines 13-18; col. 5, lines 3-9; claim 9). Meerman et al. do not teach that a line through the center of the spinning field and perpendicular to the upper sides of the plates is located at a distance (d) from a parallel line through the center of the slot, wherein the line through the center of the spinning field has a smaller distance to the edge of the other of the plates than to an edge of the one of the plates.

However, Roberts teaches an analogous method and device for spinning wherein for the purpose of reducing vortexing, fused filaments, and spin breaks, he provides an upward shift in the guides/plates so that adjacent edges of adjacent openings are at different levels, like Meerman et al., and further provides a lateral shift of the guides/plates such that a line through the center of the spinning field and perpendicular to the upper sides of the plates is located at a

Art Unit: 1791

distance (d) from a parallel line through the center of the slot, wherein the line through center of the slot has a smaller distance to the edge of the other of the plates than to an edge of the one of the plates (Figure 1; Figure 2 and 4, elements (18, 19, 20, 21, and 22); Abstract; col. 4, lines 5-7; col. 5, lines 1-4 and 30-44).

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to combine the teaching of Meerman et al. and Roberts for the purpose, as taught by both Meerman et al. (col. 3, lines 7-17) and Roberts (col. 1, lines 17-32), to reduce vortexing, fused filaments and spin breaks. It is further noted, regarding claims 1 and 2, that to the extent the limitation is supported in the original disclosure and understood by the examiner, under a broad reasonable interpretation, the combination teaches and suggests that the slot is positioned at the "bottom" of the bath.

As to claims 3-6, Meerman et al. exemplify a coagulation bath having a depth of 10 mm and openings/slots of 2 mm x 15 mm (col. 5, lines 3-7). Meerman et al. do not explicitly teach the claimed dimensions. However, it is noted that based on the size of the equipment employed by Meerman et al. and Roberts the dimensions implied by Meerman et al. and Roberts, are implicitly within the claimed ranges.

Further, it is noted that the thickness of the plates and the dimension of the distance (d) would impact the required size of the bath, the physical properties of the spun product and the spinning rate. Further, the thickness of the plates would impact the cost and weight of the plates and the amount of coagulating/quenching fluid to which the spun solution is exposed. As such, the thickness of the plates and the dimension of the distance (d) are result effective variables that would have been readily optimized as is routinely practiced in the art.

As to claim 7, the projection of the slots have a greater length than the projection of the spinning field and are somewhat narrower in width (Figure 2 and Figure 4).

Response to Arguments

Applicant's arguments filed November 13, 2007 have been fully considered, but they are not persuasive. Regarding the objection to the new matter shown in replacement Figure 2 and the 35 USC 112, first paragraph rejection regarding the limitation "wherein the slot or diaphragm is positioned at the bottom of the coagulation bath" applicant argues that support for can be found in paragraphs [0003] and [0015] of the original disclosure. This argument is not persuasive. Applicant argues that the reference in paragraph [0015] that the bottom of the coagulation bath per a spinning field has an opening clearly corresponds to the claimed slot or diaphragm. The examiner submits that this is not clear either expressly, implicitly, or inherently. The examiner further submits that the clear implication of this statement, in view of the original disclosure and the original figure 2, is that that there may be an opening in the bottom of the coagulation bath shown in the original Figure 2. This language does not provide support for the claimed slot/diaphragm to be this opening located at the bottom of the coagulation bath and does not appear to distinguish over.

The examiner agrees that the combination of Meerman in view of Roberts does not teach the apparatus shown in replacement Figure 2 (which remains objected to). However, the examiner notes that the claim is not limited to this configuration and that to the extent the slot being located at the bottom of the coagulation bath is interpreted and understood in view of the original disclosure, under a broad reasonable interpretation, the slot is reasonably understood to be at the bottom of the coagulation bath (for example, compared to the original Figure 2).

Should applicant intend to have the scope of the claims reflect the apparatus shown in replacement Figure 2, the examiner submits that a continuation-in-part application would appear to be appropriate.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFFREY WOLLSCHLAGER whose telephone number is (571)272-8937. The examiner can normally be reached on Monday - Thursday 7:00 - 4:45, alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on 571-272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1791

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. W./
Examiner, Art Unit 1791
January 30, 2008


CHRISTINA JOHNSON
SUPERVISORY PATENT EXAMINER